

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Original): A process for the catalytic hydrodealkylation alone of hydrocarbon compositions comprising C₈-C₁₃ alkylaromatic compounds, optionally in a mixture with C₄-C₉ aliphatic and cycloaliphatic products, including the processing in continuous of said hydrocarbon compositions, in the presence of water, with a catalyst consisting of a ZSM-5 zeolite having a molar ratio Si/Al ranging from 5 to 35, modified with at least one metal selected from those belonging to groups IIB, VIB and VIII, at a temperature ranging from 400 to 700°C, a pressure of between 2 and 4 MPa, and a molar ratio between H₂O/charge ranging from 3 to 6.

Claim 2 (Currently Amended): The process according to claim 1, wherein the catalytic hydrodealkylation reaction is carried out in the presence of water, previously vaporized and mixed with the hydrocarbon fraction in gas phase before the reactor inlet, or added to the liquid hydrocarbon fraction until its saturation at room temperature, or by means of a compound miscible with the charge and capable of releasing it during the reaction.

Claim 3 (Currently Amended): The process according to claim 1 or 2, wherein the compounds capable of releasing water and generating aliphatic and/or aromatic hydrocarbon species of the same nature as those present in the liquid and gaseous phase of the reaction, are alcohols, ethers, esters, or their mixtures.

Claim 4 (Original): The process according to claim 3, wherein the compounds are ethanol or phenethyl alcohol.

Claim 5 (Currently Amended): The process according to ~~any of the previous claims~~ claim 1, wherein the molar ratio between water and charge in the feeding to the reactor, ranges from 0.0006 to 0.16 (~~i.e. from 0.01 to 2.5% w/w~~), preferably from 0.003 to 0.032 (~~i.e. from 0.05 to 0.5% w/w~~).

Claim 6 (Currently Amended): The process according to ~~any of the previous claims~~ claim 1, wherein the hydrodealkylation reaction takes place at temperatures ranging from 450 to 600°C, pressures ranging from 2.8 to 3.6 MPa, H₂/charge molar ratios ranging from 3.8 to 5.2, and with such reagent flow-rates as to guarantee an LHSV (Liquid Hourly Space Velocity), calculated on the hydrocarbon stream, ranging from 3 to 5 h⁻¹, preferably from 3.5 to 4.5 h⁻¹.

Claim 7 (Currently Amended): The process according to ~~any of the previous claims~~ claim 1, wherein the hydrocarbon charge subjected to hydrodealkylation comprises C₈-C₁₃ alkylaromatic compounds selected from ethylbenzene, xylenes, propylbenzenes, ethyltoluenes, trimethylbenzenes, diethylbenzenes, ethylxylenes, tetramethylbenzenes, propyltoluenes, ethyltrimethylbenzenes, triethylbenzenes, dipropyltoluenes.

Claim 8 (Original): The process according to claim 7, wherein the C₈-C₁₃ alkylaromatic hydrocarbon charge derives from reforming units or from units which effect pyrolytic processes, or from steam-cracking.

Claim 9 (Currently Amended): The process according to ~~any of the previous claims~~ claim 1, wherein the hydrocarbon charge subjected to hydrodealkylation comprises C₈-C₁₃

alkylaromatic compounds optionally mixed with C₄-C₉ aliphatic and cycloaliphatic products and organic compounds containing hetero-atoms.

Claim 10 (Currently Amended): The process according to ~~any of the previous claims~~ claim 1, wherein the catalyst consists of a ZSM-5 zeolite in bound form, with binders selected from aluminas, among which pseudo-bohemite and γ -alumina; clays, among which kaolinite, smectites, montmorillonites; silica; aluminosilicates; titanium and zirconium oxides; and mixtures thereof, with zeolite/binder weight ratios ranging from 100/1 to 1/10.

Claim 11 (Currently Amended): The process according to ~~any of the previous claims~~ claim 1, wherein the ZSM-5/binder catalyst is modified with at least one metal selected from those belonging to groups IIB, VIB and VIII.

Claim 12 (Original): The process according to claim 11, wherein the metal is molybdenum.

Claim 13 (Currently Amended): The process according to ~~any of the previous claims~~ claim 1, wherein the ZSM-5 zeolite is characterized by an Si/Al molar ratio ranging from 15 to 30.

Claim 14 (Currently Amended): The process according to ~~any of the previous claims~~ claim 1, wherein the dispersion of metals on the catalyst is ~~effected according to techniques selected from carried out by~~ impregnation, ion exchange, vapor deposition or surface adsorption.

Claim 15 (Currently Amended): The process according to ~~any of the previous claims~~ ~~claim 1~~, wherein the ZSM-5 zeolite ~~as such or in bound form~~ is impregnated with metals of groups IIB, VIB and VIII ~~according to methods which comprise by the steps of:~~

- preparing one or more solutions of compounds of the metals ~~to be carried~~;
- impregnating the zeolite with the above solutions;
- drying the impregnated zeolite ~~thus impregnated~~:
- calcining the zeolite, ~~impregnated and dried~~, at temperatures of between 400 and 650°C;
- ~~possibly and optionally~~ repeating the above steps several one or more times.

Claim 16 (Original): The process according to claim 15, wherein the dispersion of the metals on the catalyst takes place by impregnation with an aqueous or aqueous-organic solution, the organic solvent being selected from alcohols, ketones and nitriles or their mixtures, containing at least one hydro- or organo-soluble compound of the metal in such concentrations that the total final content of the metal in the catalyst ranges from 0.1 to 10% by weight.

Claim 17 (Currently Amended): The process according to ~~any of the previous claims~~ ~~claim 1~~, wherein the total metal content in the catalyst ranges from 0.5 to 8% by weight.